

DESIGN - EXECUTE - EVALUATE - REPORT

INTERMEDIATE

CAZA

IGLOO 19 24 ST FED COM 14H

LEA County, NM

PRIMARY PUMP:

2036

SECONDARY PUMP:

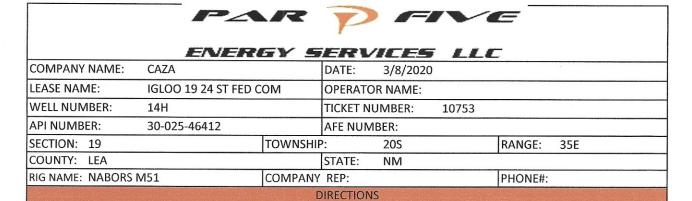
2019

Prepared By: Daniel Moreno

SERVICE SUPERVISOR
ARTESIA DISTRICT
1-575-748-8610

3/8/2020

WELL SUMMARY



Take 82 east to 360, turn right on 360 and go to 62-180, turn left on 62-180 and go to Marathon road, turn right on Marathon and go 5.5 miles, turn left go 1.5 miles to location. Nabors M51

NOTES

UPDATED BY DANIEL A. 02/27/20

HSE

WEAR PROPER PPE

JOB PROCEDURE

TEST LINES

PUMP 20BBLS CHEMICAK WASH

PUMP 10BBLS OF FRESH WATER

PUMP 340SKS OF 1ST LEAD @ 11.9

PUMP 220SKS OF 1ST TAIL @ 14.8

PUMP 1620SKS OF 2ND LEAD @ 11.9

PUMP 150SKS 2ND TAIL @ 14.8

SHUT DOWN BUMP PLUG DISPLACE WELL

WELL SUMMARY



ENERGY SERVICES LLC

		WEL	L /CASING DATA			
JOB TYPE:		INTERMEDIATE	HOLE SIZE:	12 1/4		
TVD:	5295		PREVIOUS CASING SIZ	E: 13 3/8		
PREVIOUS CASING LB,	/FT:	54.5	PREVIOUS CASING DE	PTH: 1925		
CASING SIZE:	9 5/8					
CASING LB/FT:	40		CASING GRADE:		J55	
FLOAT COLLAR DEPTH:	5231		SHOE JOINT LENGTH:		54.5	
DV TOOL DEPTH:	3996		SECOND DV TOOL DE	PTH:		
TOTAL DEPTH:	5295		TOTAL CASING :	5281		
		Τι	JBULAR DATA			
TBG/D.P. SIZE:			TBG/D.P. DEPTH:			
TBG/D.P. LB/FT:			TOOL DEPTH:			
PACKER OR RETAINER:			PERF/HOLE DEPTH:			
		SURF,	ACE EQUIPMENT			
CEMENT HEAD SIZE:	9 5/8		QUICK CONNECT SIZE:	9 5/8		
DRILL PIN SIZE/TYPE:			THREAD:	BUTRESS		
TUBING SWEDGE SIZE:			TAKE 2 -2 INCH REGULAR TUBING SWEDGES			
		CHE	MICALS NEEDED			

400LBS SUGAR, 200LBS SAPP, 5GALS PLEXAID

				E	QUIPMEN	Γ				
SUPERVISO	OR 1:	Daniel Mo	reno		FIELD REP	RESENTATI	/E:			
SUPERVISO	OR 2:				SAFETY RI	PRESENTA	ΓIVE:			
PUMP OPE	RATOR:	Joshua Ca	sillas		UNIT NUMBER: 1		1021-2019	1021-2019		
E/O:		Johnny Castillo		UNIT NUN	/IBER:	1036-2036				
E/O:		Jose Reyes			UNIT NUN	/IBER:	1007-2020			
E/O:		Dustin Cod	ddington		UNIT NUN	/IBER:	1033-2037			
E/O:		Pablo Alta	mirano		UNIT NUN	/IBER:	1049-2055			
E/O:					UNIT NUN	∕IBER:				
FB #1:					FB #3:					
FB #2:					FB #4:					
				F	LUID DATA					
1ST SI	.URRY:			,,	Control of the Contro			er)+0.1%PF153(Anti #/skPF45(Defoamer)		
DENSITY:	11.9	YIELD:	2.36	MIX H2O:	12.883	SACKS:		340		
2ND SI	URRY:	C+0.1%PF13	RETARDER							
DENSITY:	14.8	YIELD:	1.32	MIX H2O:	6.302	SACKS:		220		
3RD SI	URRY:	50/50 PLiite/C+5%	PF44(BWOW)(Salt)	+10%PF20(Bentonite G	el)+0.2%PF13(Reta	rder)+0.1%PF153(Ant	i Settling)+3#/skPF62(Extender)+3#/skPF42(Kolseal)+0.4#/sk	PF45(Defoamer)	
DENSITY:	11.9	YIELD:	2.36	MIX H2O:	12.833	SACKS:		1620		
4TH SI	URRY:	C-NEAT								
DENSITY:	14.8	YIELD:	1.32	MIX H2O:	6.304	SACKS:		100		
5TH S	LURRY						10			
DENSITY:		YIELD:		MIX H2O:		SACKS:				
6TH S	LURRY									
DENSITY:		YIELD:		MIX H2O:		SACKS:				
1st DISPLACE	MENT TYPE :	FRESH	WATER	1st DISPI	LACEMENT	VOLUME:	397	MUD WEIGHT:	9	
2nd DISPLAC	EMENT TYPE :	FRESH	WATER	2nd DISP	LACEMENT	VOLUME:	302			
3rd DISPLAC	EMENT TYPE :			3rd DISP	LACEMENT	VOLUME:				



Par Five Energy Services, LLC

ART20-12194-01R

11279 Lovington Hwy Artesia, NM

Phone(575)748-8610 Fax: (575) 748-8625

Customer: Caza Operating

MD: 5551

Report Date: March 02 2020

Well Name: Igloo 19 24 State Fed Com 14H

TVD: 5551

Stage: 1st Stage Lead

County: Lea

State: NM

BHST: 124

String: Intermediate

Rig: Nabors M51

BHCT: 97

Blend Type: **Pilot Blend**

Salesman: Kurt Crowe

Reported By: Hernandez, Patricia

Slurry Information

Density: 11.90 ppg Yield: 2.36 cuft/sk

Mix Fluid: 12.856 gal/sk

Slurry Composition

Cement Bl	end:	50/50	PliteC		
Additive	Concent	ration	Design	Description	Lot Number
PF-044	5.000	%	BWOW	Salt	M9CA14
PF-020	10.00%	%	BWOB	Bentonite Gel	Bulk
PF-013	0.30%	%	BWOB	Retarder	MM10K-125399
PF-062	3.000	lb/sk	BWOB	Extender	
PF-029	0.125	lb/sk	BWOB	Cellophane	
PF-042	3.000	lb/sk	BWOB	KOLSEAL	BulK
PF-045	0.400	lb/sk	BWOB	Defoamer	CJ20190814
PF-079	0.20%	%	BWOB	chemical Extender / Suspension Aid	44290310A

	Rheology (Average Readings)									
Temp	3	6	100	200	300	PV	YP			
80 °F	12	13	17	19	22	7.5	14.5			
97 °F	20	31	42	45	48	9	39			

Thickening Time										
Temp	POD	30 Bc	50 Bc	70 Bc	100 Bc	Batch Time				
97 °F	3:55	4:25	5:18	5:33		0				
	1	hickening	Time doe	s not inclu	ude batch	time.				

		Free Fluid		
Temp	Incl.	ml Collected	Start Time	Stop Time
97 °F	0	2 ml/250	8:10	10:10

UCA Compressive Strength									
Temp	50 psi	500 psi	12 hr	24 hr	48 hr	72 hr			
124	4:48		127	188					

Comments



Par Five Energy Services, LLC

ART20-12194-02R

11279 Lovington Hwy Artesia, NM

Phone(575)748-8610 Fax: (575) 748-8625

Customer: Caza Operating

MD: **5551**

Report Date: March 02 2020

Well Name: Igloo 19 24 State Fed Com 14H

TVD: 5551

Stage: 1st Stage Tail

County: Lea

State: NM

BHST: 124

String: Intermediate

Rig: Nabors M51

Additive Concentration

0.10%

BHCT: **97**

Blend Type: **Pilot Blend**

Salesman: Kurt Crowe

Reported By: Hernandez, Patricia

Slurry Information

Density: 14.80 ppg

Yield: 1.32 cuft/sk

Mix Fluid: 6.309 gal/sk

Slurry Composition

Cement Blend:

PF-013

Class C

Description **BWOB** Retarder

Lot Number MM10K-125399

	Rheology (Average Readings)										
Temp	3	6	100	200	300	PV	YP				
80 °F	24	26	33	39	49	24	25				
07.85	4.0	20									

16111b	3	U	100	200	300	PV	1P
80 °F	24	26	33	39	49	24	25
97 °F	18	29	91	109	125	51	74

	Free Fluid								
Temp	Incl.	ml Collected	Start Time	Stop Time					
97 °F	0	0 ml/250	8:12	8:32					

UCA Compressive Strength									
Temp	50 psi	500 psi	12 hr	24 hr	48 hr	72 hr			
124	6:20	8:19	1117	1853					

Thickening Time										
Temp	POD	30 Bc	50 Bc	70 Bc	100 Bc	Batch Time				
97 °F	1:47	2:39	3:05	3:22		0				

Thickening Time does not include batch time.

Comments



Par Five Energy Services, LLC

ART20-12194-03R

ENERGY SERVICES LLC

11279 Lovington Hwy Artesia, NM

Phone(575)748-8610 Fax: (575) 748-8625

Customer: Caza Operating

MD: 3900

Report Date: March 02 2020

Well Name: Igloo 19 24 State Fed Com 14H

TVD: 3900

Stage: 2nd Stage Lead

Mix Fluid: 12.851 gal/sk

County: Lea

State: NM

BHST: **111**

String: Intermediate

Rig: Nabors M51

BHCT: 92

Blend Type: **Pilot Blend**

Salesman: Kurt Crowe

Reported By: Hernandez, Patricia

Slurry Information

Density: 11.90 ppg Yield: 2.36 cuft/sk

Slurry Composition

Cement Bl	end:	50/50	PliteC		
Additive	Concent	tration	Design	Description	Lot Number
PF-044	5.000	%	BWOW	Salt	M9CA14
PF-020	10.00%	%	BWOB	Bentonite Gel	Bulk
PF-079	0.20%	%	BWOB	chemical Extender / Suspension Aid	44290310A
PF-062	3.000	lb/sk	BWOB	Extender	
PF-042	3.000	lb/sk	BWOB	KOLSEAL	BulK
PF-045	0.400	lb/sk	BWOB	Defoamer	CJ20190814

Rheology (Average Readings)										
	Temp	3	6	100	200	300	PV	YP		
	80 °F	17	29	33	36	39	9	30		
	92 °F	19	26	43	46	49	9	40		

Thickening Time										
Temp	POD	30 Bc	50 Bc	70 Bc	100 Bc	Batch Time				
92 °F	3:25	4:19	4:37	5:05		0				
	7	Thickening	Time doe	s not inclu	ude batch	time.				

		Free Fluid		
Temp	Incl.	ml Collected	Start Time	Stop Time
 92 °F	0	2 ml/250	8:12	1:12

UCA Compressive Strength										
Temp	50 psi	500 psi	12 hr	24 hr	48 hr	72 hr				
111	4:55		167	237						

Comments



Par Five Energy Services, LLC

ART20-12194-04R

ENERGY SERVICES LLC

11279 Lovington Hwy Artesia, NM

Phone(575)748-8610 Fax: (575) 748-8625

Customer: Caza Operating

MD: 3900

Report Date: March 02 2020

Well Name: Igloo 19 24 State Fed Com 14H

TVD: 3900

Stage: 2nd Stage Tail

County: Lea

State: NM

BHST: **111**

String: Intermediate

Rig: Nabors M51

BHCT: 92

Blend Type: Pilot Blend

Salesman: Kurt Crowe

Reported By: Hernandez, Patricia

Slurry Information

Density: 14.80 ppg

Yield: 1.32 cuft/sk

Mix Fluid: 6.311 gal/sk

100 Bc Batch Time

0

Slurry Composition

Cement Blend:

Class C

Additive Concentration NEAT

Design Description BWOB

Lot Number

POD

30 Bc

Thickening Time

70 Bc

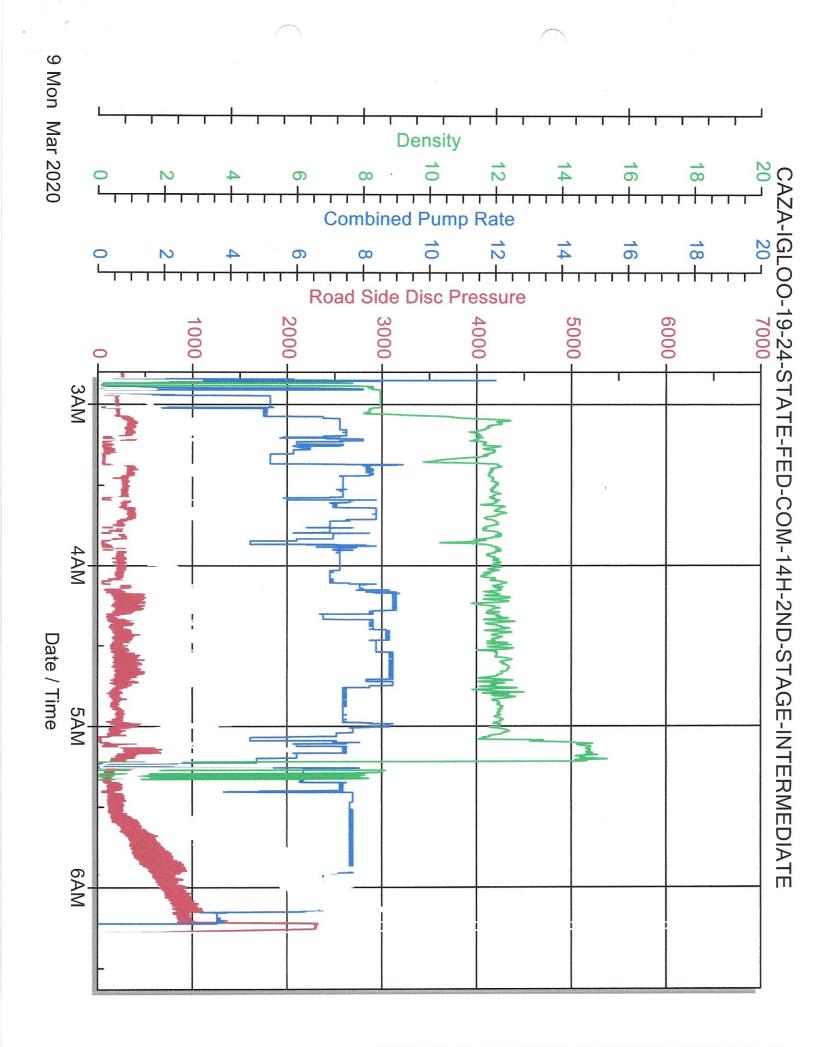
50 Bc

		Rheolo	ogy (Ave	rage Rea	adings)			
Temp	3	6	100	200	300	PV	YP	Temp
80 °F	30	35	51	59	69	27 .	42	92 °F
92 °F	33	44	78	89	96	27	69	

30	35	51	59	69	27 .	42	92 °F	1:25	2:29	2:52	3:08	
33	44	78	89	96	27	69		-	Thickening	Time doe	s not include	batch time.

		Free Fluid		
Temp	Incl.	ml Collected	Start Time	Stop Time
92 °F	0	0 ml/250	6:20	6:40

		UCA Com	pressive S	trength		
Temp	50 psi	500 psi	12 hr	24 hr	48 hr	72 hr
111	5:06	7:26	1084	1662		



JOB LOG



ENERGY SERVICES LLC

COMPANY N	AME: CA	ZA			DATE: 3/8/2020
LEASE NAME	: IGL	.00 1	9 24 ST FED	COM	TICKET NUMBER: 10753
WELL NUMB	ER: 141	Н			JOB TYPE: INTERMEDIATE
SCHEDULED	LOCATION T	IME:		18:00	DATE LEFT LOCATION: 3/9/2020
TIME ARRIVE	D ON LOCAT	TION:		16:00	TIME LEFT LOCATION: 8:30
TIME	PRESSU	RE	VOLUME	RATE	LOG DETAILS
	TBG OR CASING D.P				
13:50					PRE-CONVOY MEETING
14:00					DEPARTURE FROM YARD
16:00					ARRIVE LOCATION
16:05					HAZZARD ASSESMENT
16:10					PRE-RIG UP MEETING
16:15					RIG UP EQUIPMENT
21:05					PRE JOB SAFETY MEETING
21:20		232	2	3	PRIME LINES
21:22		6500			TEST LINES
21:26		346	20	6	CHEMICAL WASH
21:30		396	10	6	FRESH WATER
21:32		402	142	7	LEAD
21:52	21:52 62		51	1	TAIL
22:04					SHUTDOWN
22:05					DROP PLUG
22:23		189	397	7	DISPLACEMENT
23:54		700			BUMP PLUG
23:56		2280			SET PACKER
0:22		1600			CHECK FLOATS BLED BACK 2 BBLS
0:30					DROP BOMB
0:50		750			OPEN DV TOOL
0:51		496	10	4	CIRCULATE
2:55		200	20	5	FRESH WATER
3:02		326	680	6.5	LEAD
5:04		395	35	7	TAIL
5:13					SHUTDOWN
5:14					DROP PLUG
5:16		366	302	7.5	DISPLACEMENT
6:09		873		3.5	SLOW RATE
6:13		903			BUMP PLUG
6:14		2313			CHECK FLOATS BLED BACK XX BBLS
					CIRCULATED 150 BBLS/ 356 SKS OF CEMENT TO SURFACE
6:30					RIG DOWN SAFETY MEETING
6:35	6:35				RIG DOWN EQUIPMENT



ield Ticket: TKT00010753

					· ioia i	icket: INTUUUTU/53
Date of Job: 03/08/2020	District: Arte	esia	New Well / Old Well:		New	v Well
Customer: Caza Operating	LLC		Well #: Igloo 19 24 3	State Fed Con	n 14H	
Address: 200	N Loraine Ste	1550	County: Lea		State:	New Mexico
City: Midland	State:	Texas	Field:		API#: 30-025-46412	
Zip Code: 7970)1		On Road Miles:		Off Ro	ad Miles:
Contact Person/Companyma	an:		Salesman: Kurt Cro	owe		
Contact Number:			Service Supervisor:			
Rig Contractor:	Nabor	S	Tractor:	Traile	r:	Equipment Operators:
Rig Number:	M51					Jose Reyes
Head & Manifold: 9 5/8	Intermediate 2	Stage Buttress	1			Daniel Moreno
Job Type: Casing				ar.		Joshua Casillas Pablo Altamirano
Description				Qu	antity	Net Amount
Equipment						
Mileage Charge, all other equi Cars, pickups, monitoring vehi Casing - 4001' - 8000'* Cement Field Bin Set Up Char Standby Cement Pumper, per Add stages - continuous multi Low Pressure Cement Plug Co Centrifugal Pump Services, pe Circulation Equipment before j Delivery Charge - Ton mileage Service Charges - Land jobs* Equipment Total	rge* 4 hrs or fractionstage cementiontainer* er job* job, per job*	* (Mileage on pick u on of* ng device*	ip and booster pump)	3,	40.00 20.00 1.00 2.00 4.00 1.00 1.00 1.00 540.00 959.00	498.96 166.32 1,890.00 519.75 4,158.00 1,039.50 277.20 900.00 1,750.00 3,186.00 4,216.58 20,352.31
						20,352.31
Inventory PF900 Dye* PF-999 - Sugar* Class C, per cu. ft. (94lb/cu ft) PF57 Perl-Lite Ore, per cu ft (7 PF20 Bentonite Extender, per PF-044 Granulated Salt, per lb (97) PF42 KOL-SEAL LCA, per lb (97) PF62 Micro Shell Extender, per PF79 Chemical Extender, per PF13 Retarder, per lb (97) PF45 Defoamer Antifoam Agent, per PF47 Liquid Antifoam Agent, per PF29 Cellophane Flakes, per la PF803 Plexaid PFSAPP SAPP Inventory Total	72lb/cu ft) lb (60lb/cu ft) o (70lb/cu ft) o (70lb/cu ft) er lb lb (70lb/ft3) nt, per lb per gal			4 1,: 9 15, 10, 5,9 5,1 1 7:	80.00 00.00 354.00 75.00 890.00 490.00 920.00 380.00 28.00 05.00 84.00 10.00 12.00 5.00 00.00	51.98 554.40 16,248.00 5,908.50 2,652.84 1,751.31 2,331.00 3,792.60 397.78 172.98 1,111.32 259.88 76.47 80.33 554.40 35,943.77
- Total						
				J	ob Total	56,296.07

Ticket Notes

Cement Recipe 5551' of 9 5/8 Casing Buttress



Field Ticket: TKT00010753

CONTRACT CONDITIONS: (This agreement must be signed before work is commenced).

The undersigned, as authorized agent of the customer, agrees and acknowledes that the services, materials, products and supplies provided for this order shall be subject to the terms and conditions attached including indementy and waiver of warrany provisions, No additional terms and conditions shall apply to this order.

Signed:

X

Well Owner, Operator, or Agent

Terms-Net Payable on Receipt

Over 30Days, Discount Voids

Signature:

Husan a Coeffe

Emissions Regulation:

PO#:

J23 \$56,296.07